

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE MASSES OF THE DENSITY OF STATES OF CURRENT CARRIERS IN SEXTILE SUBD IN STRONGLY ALLOYED SEMICONDUCTORS WERE DETERMINED WITH RESPECT TO THE TEMPERATURE DEPENDENCE OF THE EFFECT OF CONDUCTION ELECTRONS (HOLES) ON SEMICONDUCTOR ELASTIC CONSTANTS. M SEXTILE SUBD ARE DETERMINED FOR TROUGHS ON THE (111) AND (100) AXES IN N-GE, (100) IN N-SI, AND (000) IN P-SI AND P-GAAS. THE ACCURACY FOR THE DETERMINATION OF M SEXTILE SUBD IS NOT INFERIOR TO THE ACCURACY FOR THE DETERMINATION OF EFFECTIVE MASS IN A STRONGLY ALLOYED MATERIAL. THE MOST ACCURATE DIRECT METHOD OF DETERMINING EFFECTIVE MASS, THE METHOD OF CYCLOTRON RESONANCE, IS INAPPLICABLE TO STRONGLY ALLOYED SEMICONDUCTORS (THE CONDITION OF ST 1 REQUIRED FOR RESONANCE IS NOT SATISFIED), AND MASSES ARE USUALLY DETERMINED BY METHODS HAVING LOW ACCURACY. FOR THIS REASON IT IS OF INTEREST TO INVESTIGATE THE POSSIBILITY OF DETERMINING M SEXTILE BY ELASTIC CONSTANT DATA. THE AUTHOR'S METHOD PERMITS SENSING OF VARIATION OF M SEXTILE SUBD IN THE PRESENCE OF STRONG ALLOYING CAUSED BY THE NONPARABOLIC NATURE OF THE BANDS (P-GAAS, P-SI), AND IT ALSO PERMITS DETERMINATION OF EFFECTIVE MASSES IN UPPER SYSTEMS OF MINIMA. APPLICABILITY OF THE METHOD IS LIMITED TO SUBSTANCES IN WHICH THE EFFECT OF CONDUCTION ELECTRONS (HOLES) ON THE ELASTIC CONSTANT IS OBSERVED. VALUES OF EFFECTIVE MASSES ARE TABULATED FOR GERMANIUM, SILICON AND GALLIUM ARSENIDE.

FACILITY: INSTITUTE OF STEEL AND ALLOYA, MOSCOW.

UNCLASSIFIED

KRASIL'NIKOV, S.S.

JUNO 49244
10 October 1973

[Signature]

NUCLEAR PUMPING IN MOLECULAR GAS LASERS

Article by V. M. Andreevich, V. V. Yashchenko, G. D. Kravtsov
and V. D. Tsvetkov of the Institute of Nuclear Physics
of Novosibirsk State University, Lenin M. V. Ilyinov, Novosibirsk,
Soviet Experimental'nyi Teoreticheskii Zavod, Russia, Vol.
77, No. 5 (1977), submitted 15 June 1977, as indicated.

The mechanism of the populating of vibrational levels of molecules by electrons produced during the ionization of a gas by the products of nuclear reactions or by a beam of charged particles is examined. It is demonstrated, that the mode, which contains the lowest excited level of a molecule, is highly populated by a diffuse stream of electrons, arising in the energy space due to the large negative gradient in the distribution of electrons by energies at the excitation threshold of this level. Criteria for accomplishing population inversion during nuclear pumping are established and it is shown, that mixtures based on CO₂ do not satisfy these criteria.

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[I - USSR - L]

USSR

UDC 532.517.4

ARTYUKH, L. Yu., KRASIL'NIKOV, T. K., TROFIMENKO, A. I.

"Study of the Microstructure of a Turbulent Stream on a Permeable Surface"

V sb. Prikl. i teor. fizika Vyp. 3 (Applied and Theoretical Physics. No. 3 -- Collection of Works), Alma-Ata, 1972, pp 201-206 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B1057)

Translation: The results of an experimental study of average and pulsation characteristics of a plane turbulent jet propagating along a permeable surface through which there is homogeneous injection or ejection of a gas of varying intensity are presented. It is shown that upon injection (or ejection) of the gas, there occurs a total restructuring of both the average velocity fields and the pulsation velocity profiles. It was established on the basis of thermo-anemometer measurements of the tangential friction stress that the point of zero friction in a transverse cross section of the jet does not coincide with the point of the maximum of the average velocity. The effect of injection and ejection on the transition from a laminar flow regime to a turbulent regime was shown experimentally. 8 ref. Authors' abstract.

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USSR

UDC 532.5

KRASIL'NIKOV, V. A., PAVLOV, V. I.

"Relaxation of Gravity Waves Resulting from Interaction with Capillary Waves"

Vestn. Mosk. Un-ta. Fiz., Astron. [Moscow University Herald, Physics, Astronomy], Vol 13, No 2, 1972, pp 235-237, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B470 by Yu. L. Vorob'yev).

Translation: The influence of surface tension on the process of propagation of gravity waves is studied. Assuming that the number of interacting gravity and capillary waves is high, a statistical approach is used. If the non-linearity is not too great, the influence of the high frequency portion of the spectrum on the low frequency portion is negligible, and in this case expressions are produced for the full energy and amplitudes of the perturbed surface of the liquid. A formula is produced for determination of the relaxation time of the gravity wave and numerical estimates are made, the results of which are quite similar to the observed values. 6 Biblio. Refs.

1/1

Acoustical

USSR

UDC: 534.2

VOYTSEKHOVSKAYA, S. A., KRASIL'NIKOV, V. N.

"On the Acoustic Field Developed in a Liquid When an Ice Cover is Broken"

V sb. Probl. difraktsii i rasprostr. voln. Vyp. 9 (Problems of Wave Diffraction and Propagation--collection of works. No 9), Leningrad, Leningrad University, 1969, pp 167-172 (from FZh-Mekhanika, No 9, Sep 70, Abstract No 9B3G2)

Translation: An ice cover is treated as a thin elastic uniform isotropic plate lying on the surface of a compressible liquid. It is assumed that fracture takes place at time zero at the coordinate origin under the effect of a flexural wave propagating along the plate. The problem reduces to determining the velocity potential in the half-space, assuming that the velocities and pressures are equal on the boundary. The latter condition is an equation for oscillation of the plate with the right member equal to the pressure on the liquid side, which is expressed in terms of the derivative of the potential with respect to time. Double Fourier transformation with respect to time and coordinate is used for solving the problem. The transforms are simply defined as integrals. Asymptotic expressions are found for the originals -- the unknown functions. Bibliography of ten titles. Ye. F. Afanas'yev.

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USSR

UCC 669-157.96

VOSKRESENSKAYA, N. L., GUCHEV, V. S., GUREVICH, M. YK., KRASIL'NIKOV, V. S.,
LARIKOV, L. N., RYBALKINA, L. V., and SINITSKIY, N. YK., Institute of Metal
Physics, Academy of Sciences Ukr SSR

"Physical Nature of the Processes of formation of Complex Mechanical Properties
During the Tempering of a Hardened Alloyed Structural Steel"

Kiev, Metallofizika, No 40, 1972, pp 53-56

Abstract: Calorimetric, x-ray, volumetric, and mechanical tests were used to study the physical processes which take place in the tempering of a complexly alloyed structural steel (approximately 0.33% C, 3% Cr, 1% Mn, Ni, W, and V). The magnitudes of thermal and volume effects were determined in the tempering stages. The types of processes occurring and their effect on the formation of mechanical properties were analyzed. It was established that the optimum combination of strength and ductile properties, obtained as a result of tempering the investigated steel for an empirically selected time, was associated with the occurrence of processes of internal stress relaxation, primarily at points of their maximum concentration. The hypothesis was made that this phenomenon is related to the development of processes of diffusion "closing" microcracks which cause brittle failure of the material. 3 figures, 6 bibliographic references.

1/1

Organophosphorous Compounds

USSR

UDC: 547.241'26'118

RAZUMOV, A. I., KRASIL'NIKOV, Yu. A., ZYKOVA, T. V., SNNITSINA, N. I.,
SALAKHUTDINOV, R. A., BANKOVSKAYA, N. N.

"Research in the Series of Phosphinic and Phosphinous Acid Derivatives.
LXXXV. Electron Effects in Molecules of Certain Derivatives of Trivalent
Phosphorus in the Ground State"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1250-1253

Abstract: It is shown that gradual introduction of the thioalkyl electron-acceptor radical in compounds of the P_2PSR' , $RP(SR')_2$ and $R_2P(SR)$ type leads to displacement of the resonance signal of the nucleus of the atom of tricoordinated phosphorus toward a weaker field, which is probably due to delocalization of an unshared electron pair in the phosphorus atom to the vacant d-orbitals of sulfur. It is found that nmr spectroscopy of the compounds studied can be used in discussing electron interactions between PIII and the aromatic nucleus in the ground state of the molecule.

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KRASIL'NIKOVA, D.N.

J MRS 5/10/65
L-75

SESSION 3

I.1. STUDY OF THE MICROSTRUCTURE AND DISTRIBUTION OF ADIMINURES IN EPITAXIAL ALMgGaAs ALGAs ALLOYS AS A FUNCTION OF THE GROWTH TIME

Article by L. G. Larionov, Yu. N. Tikhonov, T. V. Ivashin, N. N. Kravtsov,
A. V. Kurnosov, Yu. M. Kurenkov, M. P. Shchukin, V. S. Vinogradov
Novosibirsk, Ural Scientific Research Institute of Problems of Metallurgy and Material Science, USSR, p. 125

A study was made of the epitaxial layers of gallium arsenide grown on an open ladder system on substrates with various indoses from LiAl in the (110) direction. The growth time varied from one minute to three hours.

It was demonstrated that for all growth times beginning with one minute, the growth of the layers of the Al_xG_{1-x} orientation takes place by climbing of the parallel steps. There are a number of growth defects leading to discontinuities in the ordered motion of the steps. These are the growth holes, the growth hills and some centers of retardation of the steps in which the steps form local plateaus and loops. There is a significant rearrangement of the surface of the growing layer with growth time — the growth hills and holes disappear, the density of the centers of retardation of the steps decreases, and the configuration of the steps changes. The rearrangement of the surface of the layer is accompanied by variation in alloying level. A clear correlation has been established between the electron concentration in the layer and the density of the centers of retardation of the steps. This observed correlation indicates that the nonuniformity of alloying and the formation of transition layer can be connected with growth defects and their effect on the motion of the growth steps.

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT77
TITLE--DETERMINATION OF DIFFUSION PARAMETERS IN MOLYBDENUM-TANTALUM AND
TUNGSTEN-TANTALUM SYSTEMS -U-

AUTHOR-(03)-IVANOV, A.N., KRASILNIKOVA, G.B., MITIN, B.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1), 204-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--MOLYBDENUM ALLOY, TANTALUM ALLOY, TUNGSTEN ALLOY, REFRACTORY
METAL, METAL SINGLE CRYSTAL, METAL CASTING, METAL FORGING, METAL
DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1545

STEP NO--UR/0126/70/029/001/0204/0206

CIRC ACCESSION NO--APO120324

UNCLASSIFIED

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201530010-7

REF ID: A6525

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201530010-7"

UIC 536.532.08

USSR

KRASIL'NIKOVA, I. N., NAKS, YU. V., KHARLAMOV, N. I.

"Thermocouples for Measuring Temperatures in a Medium of Dry and Moist Hydrogen"

Elektrotermiya. Nauchno-tekhn. sb. (Electrothermics--scientific and technical collection of works), 1970, vyp 93, pp 7-8 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract No 8.31.609)

Translation: The description, circuits of installation in the furnace and short technical features of thermocouples TVR-0877 and TVR-1338, designed by the L'vov SKB [Spetsial'noye konstruktorskoye byuro--Special Design Bureau] "Termopribor" for measuring high temperatures in electrical furnaces in the atmosphere of dry and moist hydrogen, are given. The range of temperature measurements in ($^{\circ}$ C) is 300-1800; calibration -- VRNol.0/20; maximum time lag (sec) TVR-0877 -- 10, TVR-1338 -- 180; the length of submersible part (mm) -- 160, 200, 250, 320, 400 and 500; useful life (hr) 4000; weight of the thermocouple (kg) -- TVR-0877 -- 3, TVR-1338 -- 3.5. The allowable deviations of the thermoelectromotive force of the thermocouple at the temperature of free ends 0° C does not exceed $\pm 1\%$. Change in the

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UNSR

KRASIL'NIKOV, I. N., et al., Elektrotermiya. Nauchno-tekhn. sb. 1970,
vyp 93, pp 7-8

thermoelectromotive force from the initial value according to the calibration table during the useful life of the thermocouple at 1800°C over a period of 200 hr does not exceed $\pm 1.5\%$. The junction of the thermocouple after 200 hr operation at 1880°C is restored. The junction of thermocouples is shielded by molybdenum sleeve. 2 ill.

V. S. K.

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KRASIL'NIKOVA, L.M.

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6-73

VII-9. EFFECT OF THE CRYSTALLIZATION CONDITIONS ON THE PROPERTIES OF THE TRANSIENT LAYERS IN AUTOPOLYMERIZING STRUCTURES OF GEL-LIKE ASPECTUS
(Article by L. G. Lutsenko, L. P. Poroshkova-Chenko, I. V. Remez-Lutskii,
Krasil'nikova, N. N. Ivanova, Tatyana Nizametdinova, Iuliia Stepanovna Polozova,
in: "Electrolytic Polymerization," Naukova Dumka, Kiev, 1979, p. 77.)

This paper is devoted to the discovery of the causes of the formation of transient layers in ordinary grown GAs. For this purpose, a study was made of the effect of the type of substrate, the surface qualities and the crystallization conditions in the initial stage of the process on the properties of the transient region.

The potential layers were grown in the Ge-AgCl₃H₂ system. The process was studied for ordinary preparation of the substrate and, in addition, with annealing and an etching. The duration of the experiment varied from several minutes to two hours. The uniformity of the distribution of the admixture with respect to thickness of the epitaxial layer was estimated on the basis of low-energy measurement of the Hall effect. The microtopography of the surface was

studied under an electron microscope. By using the electron microscope, a new type of growth defect was discovered. The substrate directly before epitaxial growth. It was found that the growth rate and the level of alluring the epitaxial layers depend on the donor density of these defects. By regulating the process conditions in the initial stage of growth, the width of the transient region can be varied. Possible mechanisms of the formation of the transient layers are discussed.

KRASIL'NIKOVA, L. M.

350 K-2
6-73

APPENDIX. STUDY OF THE CRYSTALLIZATION TEMPERATURE IN THE ELECTROLYTICAL PROCE-

SSURE AND MECHANISM OF ELECTRICAL CATHODE ANODE

Written by L. M. KRASIL'NIKOVA, T. N. RUDNITSKAYA, T. N. KLEINER,

A. V. VORONINA, N. V. KURMANOV, A. S. SHUBSKAYA, N. N. KULIKOVSKAYA,

and V. V. KARAL'YAN, Institute of Polymer Physics, Academy of Sciences of the Ukrainian SSR, Kiev, Ukraine, 1972, p. 123.

Studies were made of the thermometry and the distribution of the structure with respect to thickness of the anodecatalytic layers of halogen anions with the (LiClO₄)_{1-x}Li_x orientation as a function of the crystallization temperature in the NaOH-H₂O system. The anode temperature varied within the range of 620-720° C. Here, the thermodromic supercooling was kept constant.

For the stationary section, the actual temperature range (620-720° C) is observed at which the layers grow more perfect with respect to structure, with the greatest clarity, irregular system of growth stages on the surface, and with maximum defective concentration and minimum electron mobility. In the case of a reduction in the crystallization temperature from optimal, the growth stages are emitted more weakly, the growth rate drops, and the alloying level increases. The increase in temperature above optimal leads to local isolation of the second phase, inhibition of the growth stages in these sections and destruction of the regularity. Here, the growth rate decreases, and the alloying metal increases.

Thus, an analysis of the results shows that the clear correlation is observed between the investigated characteristics. One of the important relationships of interest is the influence of the substrate by the growing layer is the surface microstructure and the mechanism of its growth.

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ENTHALPY OF FORMATION OF CARBON BLACK -U-

AUTHOR--(03)--LEZHNEV, N.N., RYBAKOVA, V.I., KRASILNIKOVA, M.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHM. 1970, 44(5), 1362-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--ENTHALPY, CARBON BLACK, CHEMICAL PRODUCT PRODUCTION, ELASTOMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0755

STEP NO--UR/0076/70/044/005/1362/1363

CIRC ACCESSION NO--AP0136192

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 016
CIRC ACCESSION NO--AP0136192
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS IS THE 1ST ATTEMPT TO
CLASSIFY THE THERMODYNAMIC CHARACTERISTICS OF VARIOUS TYPES OF C BLACK.
DATA ARE GIVEN ON THE TEMP. OF COMBUSTION AND THE CALCD. AND EXPTL.
ENTHALPY OF FORMATION OF C BLACK. THESE DATA CHARACTERIZE THE STRUCTURE
DEVIATION OF C BLACK FROM THE STRUCTURE OF GRAPHITE. THE INFLUENCE OF
VARIOUS CONDITIONS OF C BLACK PRODUCTION ARE CONSIDERED. A MODEL OF C
BLACK, USEFUL IN CONSIDERING ELASTOMER STRENGTHENING IS ADVANCED.
FACILITY: NAUCH.-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0101133

K Ref. Code: UP0197

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3, pp 212-215

STUDIES ON CERTAIN SIDES OF MECHANISM OF ACTION OF
CHLORAMPHENICOL ON GENETIC TRANSFORMATION IN STREPTOCOCCI

A. N. Klimov, M. M. Krasilnikova, I. M. Tereshin

Leningrad Institute for Antibiotics

The mechanism of action of chloramphenicol (in subbacteriostatic concentrations) on genetic transformation of streptomycin resistance in hemolytic streptococci of group H, strain Challis was studied. It was found with P³²-labeled DNA that chloramphenicol had no effect on incorporation of the radioactive marker to the competent cells of streptococci. A study of the effect of chloramphenicol on various stages of transformation showed that it produced suppression of the activity of intracellular DNA-se and RNA-se. The amount of RNA in the recipient cells increased under the action of chloramphenicol.

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REEL/FRAME
19850758

AA0040692 KRASILNIKOV LUR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

240728 COMPARTMENT SURFACE intensifies the heat treatment operation in that each section of its gas distributor grid has independent headers to activate part of its lids or caps. The bottom of the heating (1) and cooling (2) compartments comprise the grid sections (3) to support crushed corundum, firebrick etc, the first section grid (6) rather wider than those following so that the gas can burn well below the level of the wire passing through and provide enough heat to raise the metal to scale temperatures. The gas (short of air) burns and forms a de-oxidising medium, with additional air piped in (7) to finally burn off the gas above the wire level. When working small gauge wire, air preheated in the stove (10) is fed in through the grid caps. When working average gauge material, heat can be removed by the air cooling tube (11), whilst at heavy gauges a water-cooling tube can be inserted.

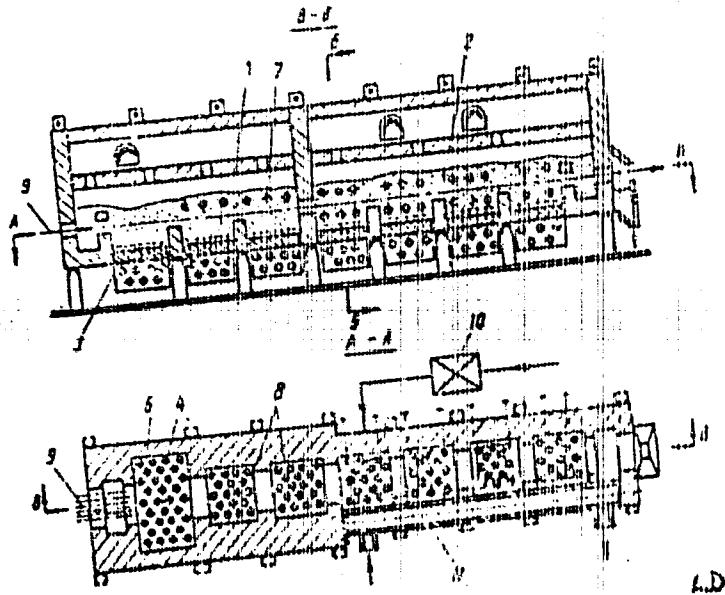
15.12.66 as 1120453/22-1.GUTOVSKIY, B.P. et al(14.8.69)
Bul 13/1.4.69. Class 18c, 31a¹. Int.Cl.C61d, F27b.

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"APPROVED FOR RELEASE: 08/09/2001

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AA0040692



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APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201530010-7"

AA0040692

AUTHORS: Gutovskiy, B. P.; Orlov, N. A.; Berdichevskiy, A. M.;
Baskakov, A. P.; Zubov, V. M.; Grachev, S. V.;
Berg, B. V.; Zavarcov, A. S.; Burkov, G. G.;
Krasil'nikov, L. A.; and Sokolov, N. V.

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UDC 621.357.13.035.4

USSR

KRASIL'NIKOV, M. T., IVANOVSKIY, L. Ye.

"Electrolysis of Niobium Dioxide Anodes in a Chloride-Fluoride Melt"
Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of Institute
of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17,
1971, pp 98-103 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972,
Abstract No 3 L360 from the Resumé).

Translation: The anodic dissolution of NbO_2 in a $\text{KCl-NaCl-10 wt.\% NaF}$ melt
is studied at 700° , D_a 0.01-0.5 a/cm^2 . It is demonstrated that NbO^{n+} ions
go over into the melt, where $n = 2-3$, then discharge at a potential more
electropositive than metallic Nb in these melts. Oxygen accumulates on the
anode as Nb_2O_5 . The anodic polarization of electrodes of NbO_2 is measured
at 700° in the same melts in the D_a interval $10^{-3}-10^{-1} \text{ a/cm}^2$. The polariza-
tion of a molybdenum cathode in an electrolyte of $\text{KCl-NaCl-10 wt.\% NaF}$
containing the products of anodic dissolution of NbO_2 is measured.

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UDC 621.357.1\$035.2

USSR

KRASIL'NIKOV, M. T., IVANOVSKIY, L. Ye.

"Electrode Processes During Electrolysis of Anodes of NbO in a Chloride-Fluoride Melt"

Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of Institute of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17, 1971, pp 94-97 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L359 by K. S. Pedan).

Translation: The process of anodic dissolution of NbO_2 in a melt of KCl-NaCl-10 wt.% NaF was studied at 700° with $D_a = 0.01-0.5 \text{ a/cm}^2$. It was established that NbO^{n+} is transferred to the electrolyte, where $n = 2-3$, which then discharges on the cathode at a potential more positive than metallic Nb in chloride-fluoride baths. The anodic polarization of NbO at 700° in the D_a interval $10^{-3}-4 \text{ a/cm}^2$ was measured in a chloride-fluoride melt at the moment of deflection of the polarizing current. The cathodic polarization of the Mo electrode was determined in an electrolyte of KCl-NaCl-10 wt.% NaF, containing the products of anodic dissolution of NbO .

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UDC 632.4.42/49h/z

USSR

KRASIL'NIKOV, N. A., KHODZHIABAYEVA, S. M., KIRCHINK, T. G., and ASKAROVA,
S. A., Moscow State University

"Toxin Formation in *Verticillium dahliae* Strains Differing in Virulence"
Moscow, Sel'skokhozyaystvennaya Biologiya, No 2, 1971, pp 260-264

Abstract: Toxin was isolated from four groups of *V. dahliae* strains differing not only in morphological and biochemical properties, but also in virulence. The most virulent was group II, followed by groups III, IV, and I. The toxicity of the concentrates was tested by immersing cut cotton shoots in solutions of various dilutions. Toxin from group II wilted the plants in a 1:10,000 dilution, whereas the inhibiting effect of the other toxins was not manifested until 1:1000 and 1:100 dilutions were used. Thus, there is a relationship between the activity and virulence of the various groups of the agent of cotton wilt. *V. dahliae* toxin consists of several fractions, the most toxic being a cinnamon-brown pigment, which is produced by all four fungus groups.

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UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--A STUDY ON MORPHOLOGY OF TWO CULTURES BELONGING TO THE GENUS
MICROPOLYSPORA -U- KRASILNIKOV, N. A.
AUTHOR--DOROKHOVA, L.A., AGRE, N.S., KALAKUTSKIY, L.V., KRASILNIKOV, N. A.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 95-100

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MORPHOLOGY, SPOR, FUNGUS, ACTINOMYCETES

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0220/T0/059/001/0095/0100

PROXY REEL/FRAME--1920/1731

CIRC ACCESSION NO--APO109592

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MORPHOLOGY OF TWO THERMOPHILIC STRAINS BELONGING TO THE GENUS MICROPOLYSPORA WAS STUDIED. I. S. MICROPOLYSPORA RECTIVIRGULA 1325 AND THERMOPOLYSPORA POLYSPORA A-94. BOTH ORGANISMS HAVE SIMILAR MYCELIUM STRUCTURE AND SPORE FORMATION. ELECTRON MICROSCOPY REVEALED THAT M. RECTIVIRGULA HAD THE STRUCTURE OF AERIAL MYCELIUM TYPICAL FOR ALL STUDIED RAY FUNGI. SPORES OF THE STUDIED CULTURE EXHIBITED PRONOUNCED POLYMORPHISM, THICK WALL (700-1000 Å) CONSISTING OF TWO LAYERS AND MULTI LAYERED OUTER SHEATH. THE INNER STRUCTURE OF SPORES WAS THE SAME AS THAT OF HYPHAE AND SIMILAR TO THAT OF SPORES OF THE MAJORITY OF STUDIED ACTINOMYCETES.

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UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11 SEP 70

TITLE--MORPHOLOGY AND GROWTH OF CAULOBACTER -U-

AUTHOR--KRASILNIKOV, N.A., BELYAYEV, S.S.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 352-357

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MORPHOLOGY, BACTERIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0368

STEP NO--UR/0220/70/039/002/0352/0357

CIRC ACCESSION NO--AP0100854

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100854
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO THEIR MORPHOLOGY 127 CAULOBACTER STRAINS WERE DIVIDED INTO TWO TYPES: VIBROID AND BACTEROID. BOTH TYPES INCLUDED SEVERAL SUBGROUPS WHICH BY THEIR MAIN PROPERTIES BELONGED TO ONE MORPHOLOGICAL TYPE. THESE TWO MORPHOLOGICAL TYPES SHOULD BE REGARDED AS TWO SUBGENERA OF THE GENUS CAULOBACTER HENRICI AND JOHNSON. CAULOBACTER DIVIDED BY TRANSVERSE FISSION, THIS RESULTING IN A MOTILE UNIFLAGELLATED CELL AND IN A CELL WITH A STALK. SOMETIMES TWO CELLS WITH A STALK WERE FORMED AS A RESULT OF DIVISION IN BOTH MORPHOLOGICAL TYPES. THE STALK WAS PRODUCED ON A FLAGELLAR POLE OF THE BACTERIAL CELL AND WAS A PART OF ITS BODY, ITS APPENDAGE. THE FLAGELLUM DEGENERATED AND ONLY SOMETIMES COULD BE DISCERNIBLE AT THE DISTAL END OF THE STALKS.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--NUCLEASES OF ACTINOMYCETES BELONGING TO THE BLUE GROUP -U-

AUTHOR--VERZILCZ, V.V., TATARSKAYA, R.I., KRASILNIKOV, A.

CCNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 1,
PP. 133-136

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ACTINOMYCES, MICROBIOLOGY, ENZYME

CCNTRCL MARKING--NC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/0728

STEP NC--UR/C216/10/000/C01/0133/0136

CIRC ACCESSION NC--APOC47226

UNCLASSIFIED

Acc. Nr: AP0047226

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, № 1, pp 133-134

Verzilov, V. V.; Tatarskaya, R. I.; Krajil'nikov, N. A.

NUCLEASES OF ACTINOMYCETES BELONGING TO THE BLUE GROUP

Institute Microbiology, Academy of Sciences USSR

Investigations of the blue group actinomycetes has shown that the cultural fluid of the strains pertaining to this group displays nucleic activity which differs in the case of different strains. Some strains produce a thermostable nuclease which retains its activity after heating in an acid medium.

The enzyme produced by other strains is destroyed by heating and may be regarded as a phosphodiesterase. Many other strains displayed a partial activity decrease following heating suggesting that these strains produce several different nucleases.

All strains checked with respect to their DNA activity have shown their ability to split this compound.

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REEL/FRAME
19790728

421 2

1/2 028 UNCLASSIFIED PROCESSING DATE--02 JUL 74
TITLE--ON THE ANTIPHAGE SUBSTANCE ISOLATED FROM ACTINOMYCES GLOBISPORUS
-U- AUTHOR-(04)-KURAISHI, H., KUIMOVA, T.F., SKALOZUB, N.G., KRASILNIKOV, N.A.
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 120-124
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PHAGE, ACTINOMYCES, ION EXCHANGE, CHROMATOGRAPHY, ANTIOXIDANT
ADDITIVE, PROTEIN, DNA, RNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1441

STEP NO--UR/0220/70/019/001/0120/0124

MISSION ID--AP0109501 UNCLASSIFIED

Z/2 028

CIRC ACCESSION NO--AP0109501

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FURTHER PURIFICATION WAS CARRIED OUT ON THE RAW PREPARATION WITH ANTIPHAGE ACTIVITY ISOLATED FROM THE CULTURAL BROTH OF ACTINOMYCES GLOBISPORUS BI VAR. A. THE PROCEDURE CONSISTED IN A STEPWISE FRACTIONATION WITH AMMONIUM SULPHATE AND ION EXCHANGE COLUMN CHROMATOGRAPHY ON DEAE-SEPHADEX A-50 WITH THE FOLLOWING PURIFICATION WERE CARRIED OUT AT 4-6DEGREES WITH AN ADDITION OF 0.0002 BETA-MERCAPTOETHANOL INTO BUFFER SOLUTIONS AND SEPHADEX COLUMNS AS A STABILIZER OR ANTIOXIDANT. THE HIGHLY ACTIVE ANTIPHAGE SUBSTANCE, ISOLATED FROM THIS STRAIN, WAS SHOWN TO BE OF PROTEIN NATURE WITH SPECIFICALLY NEUTRALIZED WITH DNA PREPARATIONS OF VARIOUS BASE COMPOSITION BUT NOT WITH RNA.

UNCLASSIFIED

DDC: 51.681.14.155

USSR

BAYDAKOV, M. P., KRASIL'NIKOV, N. N., and PASTUKHOV, O. V.
"Human Ability to Distinguish Images in Gaussian Noise"
Novosibirsk, Avtometriya, No 1, 1973, pp 7-14

Abstract: In the practical design of radar and television equipment, the engineer comes up against the problem of the operator's ability to distinguish halftone images in a background of additive noise with a normal distribution law, the problem of when the detected images have substantial linear frequency distortion, and the problem of when the noise is correlated -- i.e., when the spectral intensity of the noise is a function of the frequency. The purpose of this paper is investigate the possibility of using the theory of statistical solutions for describing the operator's interactions under these conditions. Results of experiments the authors conducted in this investigation are described along with the experimental equipment. Observers were tested on their ability to distinguish images in Gaussian noise whose spectral intensity is independent of the frequency, images with linear frequency distortion, and images with varying levels of distortion. The authors conclude that the theory of statistical solutions is applicable to the problem.

1/1

USSR

UDC: 621.375.4

KRASIL'NIKOV, N. N.

"An Amplifier for Two-Signal and Three-Signal Instruments"

Tr. Leningr. in-t aviats. priborostr. (Works of the Leningrad Institute of Aviation Instrument Building), 1971, vyp. 69 pp 47-54 (from RMh-Radic. tekhnika, No 6, Jun 71, Abstract No 6D12)

Translation: The problem of the signal-to-noise ratio in two- and three-channel television preamplifiers is considered. The results of the theoretical study are experimentally confirmed. An experimental two-channel preamplifier is briefly described, and its basic parameters are presented.

Resumé.

1/1

- 5 -

UDC 539.67

USSR

BEYLIN, V. M., VEKILOV, Yu. Kh., KADYSHEVICH, A. Ye., and ~~KHABIL'NIKOV, R. M.~~

"Effect of Alloying An Electrically Active Addition on Phonon Relaxation in Certain Intermetallic Combinations"

Sb. "Vnudrennye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials"), Moscow, Izd-vo "Nauka", 1970, pp 41-43

Abstract: It is shown that the observed ultrasonic absorption is determined by the interaction of an elastic wave with crystal lattice oscillations. Alloying by an electrically active addition leads to increased absorption. Evaluations of the effect of alloying on the absorption coefficient by using data on the effect of alloying on third-order constants are presented. 2 figures, 5 references.

1/1

1/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ELASTIC CONSTANTS OF STRONGLY DOPED N SILICON AND P GERMANIUM -U-

AUTHOR--BEYLIN, V.M., VEKILOV, YU.KH., KRASILNIKOV, O.N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 684-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON, GERMANIUM, DOPED ALLOY, HIGH PURITY METAL, METAL
ELASTICITY, ULTRASONIC EFFECT, INTERFEROMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0655

STEP ND--UR/01 81/70/012/001/0684/2645

CIRC ACCESSION NO--APO105634

UNCLASSIFIED

039

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIPAC ACCESSION NO--AP01056

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. ELASTIC CONSTS. OF PURE AND STRONGLY DOPED N-SI AND P-GE WERE MEASURED BY THE ULTRASOUND INTERFEROMETRIC METHOD AT 76-300DEGREESK. ALL THE ELASTIC CONSTS. (AND THEIR TEMP. DEPENDENCES) OF STRONGLY DOPED SPECIMENS DIFFER CONSIDERABLY FROM THE CORRESPONDING ELASTIC CONSTS. OF PURE SPECIMENS. IN THE CASE OF N-SI, THE TEMP. DEPENDENCE OF THE CONST. C PRIME CHANGES INTO AN OPPOSITE DEPENDENCE. VARIATION OF THIS ELASTIC CONST. IS PRODUCED BY THE SAME MECHANISM OF INTERVALLEY SCATTERING AS THE VARIATION OF THE ELASTIC CONST. C SUB44 IN N-GE. VARIATION OF C SUB44 IN N-SI IS DED. BY THE SPLITTING OF THE SUR BANDS DELTA SUB1 AND DELTA SUB2 IN THE SHIFT. IN P-GE, VARIATION OF THE ELASTIC CONST\$, WITH DOPING IS RELATED TO THE EFFECT OF DEFORMATION ON THE DISPERSION OF HOLES. FROM THE COMPARISON OF THE EXPTL. DATA WITH THE CALCN., THE EFFECTIVE MASS HAS FOUND DE STRONGLY DOPED N-SI AND THE CONSTS. OF THE DEFORMATION POTENTIAL, SIGMA PRIME SUBU AND SIGMA SUBU. IN P-GE, THE DEFORMATION POTENTIAL CONSTS. B AND D WERE FOUND.

UNCLASSIFIED

USSR

K UDC 621.315.532

BEYLIN, V. M., VENKILOV, YU. KH., KRASIL'NIKOV, A. N. Moscow
Institute of Steel and Alloys, Moscow, Ministry of Higher and
Secondary Specialized Education RSFSR

"Determining the Effective Masses of Current Carriers in Strongly
Alloyed Semiconductors by the Effect of Conduction Electrons
(Holes) on Elastic Constants"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol. 4, No. 5, 1970,
pp 912-914

Abstract: The effective masses of the density of states of current carriers m_1^* in strongly alloyed semiconductors were determined with respect to the temperature dependence of the effect of conduction electrons (holes) on semiconductor elastic constants. m_1^* are determined for troughs on the <111> and <100> axes in n-Ge, <100> in n-Si, and <000> in p-Si and p-GaAs. The accuracy for the determination of m_1^* is not inferior to the accuracy for the determination of effective mass in a strongly alloyed material.

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USSR

BEYLIN, V. M., et al., Fizika i Tekhnika Poluprovodnikov, Vol. 4,
No 5, 1970, pp 912-914

The most accurate direct method of determining effective mass is the method of cyclotron resonance -- is inapplicable to strongly alloyed semiconductors (the condition of $\omega \ll 1$ required for resonance is not satisfied), and masses are usually determined by methods having low accuracy. For this reason it is of interest to investigate the possibility of determining m^* by elastic constant data. The author's method permits bypassing of variation of m^* in the presence of strong alloying caused by the nonparabolic nature of the bands (p-GaAs, p-Si), and it also permits determination of effective masses in upper systems of minima. Applicability of the method is limited to substances in which the effect of conduction electrons (holes) on the elastic constant is observed. Values of effective masses are tabulated for germanium, silicon and gallium arsenide.

2/2

- 61 -

1/2 018

UNCLASSIFIED

PROCESSING DATE--040414

TITLE--DETERMINING THE EFFECTIVE MASSES OF CURRENT CARRIERS IN STRONGLY
ALLOYED SEMICONDUCTORS BY THE EFFECT OF CONDUCTION ELECTRONS HOLES ON
AUTHOR-(03)-BEYLIN, V.M., VEKILOV, YU.KH., KRASILNIKOV, D.N.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL. 4, NO. 5, 1970,
PP 912-914

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM, SILICON SEMICONDUCTOR, GALLIUM ARSENIDE
SEMICONDUCTOR, ELECTRON HOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0449/10/004/005/0912/0114

PROXY REEL/FRAME--3007/1452

SECTION NO--AP0136778

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE MASSES OF THE DENSITY OF STATES OF CURRENT CARRIERS IN SEXTILE SUBD IN STRONGLY ALLOYED SEMICONDUCTORS WERE DETERMINED WITH RESPECT TO THE TEMPERATURE DEPENDENCE OF THE EFFECT OF CONDUCTION ELECTRONS (HOLES) ON SEMICONDUCTOR ELASTIC CONSTANTS. IN SEXTILE SUBD ARE DETERMINED FOR TROUGHS ON THE (111) AND (100) AXES IN N-GE, (100) IN N-SI, AND (000) IN P-SI AND P-GAAS. THE ACCURACY FOR THE DETERMINATION OF IN SEXTILE SUBD IS NOT INFERIOR TO THE ACCURACY FOR THE DETERMINATION OF EFFECTIVE MASS IN A STRONGLY ALLOYED MATERIAL. THE MOST ACCURATE DIRECT METHOD OF DETERMINING EFFECTIVE MASS, THE METHOD OF CYCLOTHRON RESONANCE, IS INAPPLICABLE TO STRONGLY ALLOYED SEMICONDUCTORS (THE CONDITION OF ST 1 REQUIRED FOR RESONANCE IS NOT SATISFIED), AND MASSES ARE USUALLY DETERMINED BY METHODS HAVING LOW ACCURACY. FOR THIS REASON IT IS OF INTEREST TO INVESTIGATE THE POSSIBILITY OF DETERMINING IN SEXTILE BY ELASTIC CONSTANT DATA. THE AUTHOR'S METHOD PERMITS SENSING OF VARIATION OF IN SEXTILE SUBD IN THE PRESENCE OF STRONG ALLOYING CAUSED BY THE NONPARABOLIC NATURE OF THE BANDS (P-GAAS, P-SI), AND IT ALSO PERMITS DETERMINATION OF EFFECTIVE MASSES IN UPPER SYSTEMS OF MINIMA. APPLICABILITY OF THE METHOD IS LIMITED TO SUBSTANCES IN WHICH THE EFFECT OF CONDUCTION ELECTRONS (HOLES) ON THE ELASTIC CONSTANT IS OBSERVED. VALUES OF EFFECTIVE MASSES ARE TABULATED FOR GERMANIUM, SILICON AND GALLIUM ARSENIDE. FACILITY: INSTITUTE OF STEEL AND ALLOYS, MOSCOW.

UNCLASSIFIED

KRASIL'NIKOV, S.S.

JPRS 60244
10 October 1973

NUCLEAR PUMPING IN MOLECULAR GAS LASERS

[Article by V. A. KRASIL'NIKOV, V. V. VASIL'YEV, S. S. KRAVTSOV
and V. D. PLESHEYEV of the Institute of Nuclear Physics
of Moscow State University, Main R. T. Karpov Polytechnic
Journal, Experimental, No. 1, Teoreticheskaya Fizika, Russian. Vol.
53, No. 3 (11), 1972, pp. 1633-1643.]

The mechanism of the populating of vibrational levels of molecules by electrons produced during the ionization of a gas by the products of nuclear reactions or by a beam of charged particles is examined. It is demonstrated, that the mode, which contains the lowest excited level of a molecule, is highly populated by a diffuse stream of electrons, arising in the energy space due to the large negative gradient in the distribution of electrons by energies at the excitation threshold of this level. Criteria for accomplishing population inversion during nuclear pumping are established and it is shown, that mixtures based on CO₂ do not satisfy these criteria.

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[I - USSR - L]

USSR

JDC 536.532.08

KRASIL'NIKOVA, I. N., NAKS, YU. V., KHARLAMOV, N. I.

"Thermocouples for Measuring Temperatures in a Medium of Dry and Moist Hydrogen"

Elektrotermiya. Nauchno-tekhnik. sb. (Electrothermics--scientific and technical collection of works), 1970, vyp 93, pp 7-8 (from RZh Metallurgiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract No 032.600)

Translation: The description, circuits of installation in the furnace and short technical features of thermocouples TVR-0877 and TVR-1338, designed by the L'vev SKB [Spetsial'noye konstruktorskoye byuro--Special Design Bureau] "fermopribor" for measuring high temperatures in electrical furnaces in the atmosphere of dry and moist hydrogen, are given. The range of temperature measurements in (°C) is 300-1800; calibration -- VRNal0/20; maximum time lag (sec) TVR-0877 -- 10, TVR-1338 -- 180; the length of submersible part (mm) -- 160, 200, 250, 320, 400 and 500; useful life (hr) 4000; weight of the thermocouple (kg) -- TVR-0877 -- 3, TVR-1338 -- 3.5. The allowable deviations of the thermoelectromotive force of the thermocouple at the temperature of free ends 0° C does not exceed $\pm 1\%$. Change in the
1/2

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USSR

KRASIL'NIKOVA, I. N., et al., Elektrotermiya. Nauchno-tehn. [ib. 1970,
vyp 93, pp 7-8]

thermoelectromotive force from the initial value according to the calibration table during the useful life of the thermocouple at 1300° C over a period of 200 hr does not exceed $\pm 1.5\%$. The junction of the thermocouple after 200 hr operation at 1880° C is restored. The junction of the thermocouples is shielded by molybdenum sleeve. 2 ill.

V. S. K.

2/2

1/2 027

UNCLASSIFIED

PROCESSING UNIT

TITLE--CONCERNING THE DIFFERENTIAL DIAGNOSIS OF PROGRESSIVE
LEUKENCEPHALITIS AND GLIOMA OF THE BRAIN -U-
AUTHOR--(U5)-LEUNOVICH, A.L., SKLYUT, I.A., KARDASH, I.I., KASTRITSKAYA,
Z.M., KRASILNIKOVA, N.YA.
COUNTRY OF INFO--USSR

K
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KOVSKOVA, 1970,
VOL 70, NR 5, PP 673-679
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUMOR, BRAIN, LESION, DIAGNOSTIC MEDICINE,
ELECTROENCEPHALOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0232

STEP NO--UR/0246/70/070/005/0673/0679

CIRC ACCESSION NO--AP0117484
UNCLASSIFIED

USSR

UDC 547.241+547.27

KRASIL'NIKOVA, Ye. A., RAZUMOV, A. I., BAYANDINA, Ye. V., and ZARENOVA, V. G.

"The Reaction of the Ethyl Ester of Diphenylthiophosphinic Acid with α -Halide Substituted Simple Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 1173-1174

Abstract: The ethyl ester of diphenylthiophosphinic acid reacts with α -halide substituted simple esters. The following products were separated from the reaction mixture: diphenylalkoxyalkylphosphine sulfides, the ethyl ester of diphenyldithiophosphinic acid, and diphenyldi(alkoxyalkyl)-phosphonium chlorides.

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- 56 -

Abstract: The reaction of ethyl esters^y with acetaldehyde is acid (I) and diethylphosphinous acid (II) with acetaldehyde is reported. Both esters react by the same mechanism with acetaldehyde. The reaction is complicated in case of (I) by decomposition of the starting material with the formation of triethylphosphine and the ethyl ester of diethyldithiophosphinic acid. It is proposed that the reaction of ethyl esters of (I) and (II) with acetaldehyde is a nucleophilic replacement reaction probably going through the formation of an intermediate cyclic complex. The proton is split

1/2

UDC 547.241

USSR

KRASILNIKOVA, YE. A., MOSKVA, N. A., RAZUMOV, A. I., Kazan'
Chemical-Technological Institute imeni S. M. Kirov, Kazan, Ministry
of Higher and Secondary Specialized Education RSFSR

— Phosphorus and Phosphinic Acid Derivatives. LXXI.
— Phosphorus and Phosphinic Acid Derivatives. LXXII.

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530010-7

... by the nucleophilic carbonyl oxygen. As a result, the ester group
is removed as an alcohol or a mercaptan. Product identification
was made by IR and TLC analysis.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530010-7"

USSR

KRASIL'NIKOVA, YE. A., et al, Zhurnal Obshchey Khimii, Vol 40,

USSR

UDC: 8.74

KRASILOV, A. A., KEDROVICH, Yu. I., LITVINS, V. I.

"Realization of an ALGOL-60 Type Language on the M-220 Computer"

Zh. vychisl. mat. i mat. fiz. (Journal of Computer Mathematics and Mathematical Physics), 1971, 11, No 4, pp 1075-1078 (from RadioiKibernetika, No 1, Jan 72, Abstract No 1V1012)

Translation: The paper is a report on a high-speed translating system (up to 1200 commands/min) for the M-220 computer to convert ALGOL programs to machine codes. In addition to constructions in ALGOL-60, the input language includes operations on data blocks, with complex numbers and logic sequences of bits the length of a machine word. The characteristics of the translator give the system excellent operational and service properties. Authors' abstract.

1/1

USSR

UDC 547.341

ISMAILOV, V. M., NOVRUZOV, S. A., KRASILOV, A. M., and AHMEDOV, SH. T.
Azerbaydzhani State University Imeni S. M. Kirov

"Reaction of Phosphorus Pentachloride With Isoprene Hydrochlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), № 5, May 73, p 1197

Abstract: Studying the effect of two electron donating and one electron accepting substituents at the olefinic bond on the phosphorylation the reaction of phosphorus pentachloride with primary and tertiary isoprene hydrochlorides was studied. It has been shown that in both cases the reaction leads to the products of chlorination and phosphorylation. In the process 1-chloromethyl-2-chloro-2-methylpropylphosphonic acid dichloride was synthesized which could undergo dehydrochlorination after prolonged heating to yield 1-chloromethyl-2-methyl-propenyl-1-phosphonic acid dichloride.

1/1

172 023
TITLE--RELATION OF THE LUMINESCENT AND GYROMAGNETIC PROPERTIES OF URANIUM COMPOUNDS WITH THEIR STRUCTURES --U-
AUTHOR--(OSI)-BUKOV, V.I., KIZEL, V.A., KRASILOV, YU.I., RADIV, V.A.,
ANIKHANOVA, Z.M.
COUNTRY OF INFO--USSR
UNCLASSIFIED
PROCESSING DATE--13NOV70
SOURCE--IZV. AKADEMIKI NAUK SSSR, SER. FIZ., 1970, 34(3), 572-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--LUMINESCENCE, URANIUM COMPOUND, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY--REF ID: A274772013
CIRC ACCESSION N--10319-01
STEP NODE--UR/CG454/TC/034701 or 35717078
RELEASED BY [Signature]

PROCESSING CASE#-138070

UNCLASSIFIED

2/2 023
CIRC AGN-SSION N--M-120831
ABSTRACT--EXTRACTED FROM ABSTRACT. THE ROTATIONAL STRUCTURE OF
TRANSITION, THE DIPOLE-QUADRUPOLAR COEFFICIENTS AND THE DEGREE OF CIRCULAR POLARIZATION
(C_1) WERE STUDIED IN THE SERIES MEASURED SUB2, TO SUB2-H SUB3-C0 AND SUB3
THE EQUALS K, IN SUB4, RS, CS, AND PAI. LINEAR RELATIONS ARE FOUND
BETWEEN RI AND THE CATION DIMENSION AND BETWEEN RI AND C AND D. THE
DEPOSITION OF ENERGY LEVELS IN RI SUB2 IS DISCUSSED.
HUSK. FIZ. TEKH. INST., MOSCOW, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROGRAPHIC DETERMINATION OF IMPURITIES IN TITANIUM IV CHLORIDE
USING A HOLLOW CATHODE DISCHARGE -U-
AUTHOR-(C3)-PEVTSOV, G.A., KRASIL'SHCHIK, V.Z., YAKOVLEV, V.A.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 580-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROGRAPHIC ANALYSIS, TITANIUM CHLORIDE, CATHODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0075/T07025/003/0980/6581

PROXY REEL/FRAME--3001/0471

FIRE ACCESSION NO--APC126223

UNCLASSIFIED

PROCESSING DATE--20LOV70

UNCLASSIFIED

2/2 012
ACCESSION NO--A9012622
ABSTRACT/EXTRACT--(U) OP-0-
ABSTRACT. A SPECTROGRAPHIC METHOD IS
SUGGESTED FOR THE DETERM. OF IMPURITIES IN THE SUBSTRATE. THE IMPURITIES ARE
COLLECTED BY LISTG. OFF TICL SUBSTRATE AND THE CONC. IS
ANALYZED, AFTER ADDING ASCL, IN A HOLLOW CATHODE IN WHICH THE EXPTS.
ZONE IS SEPARATED FROM THE EXCITATION ZONE. Si IS DETERD. WITHOUT CONC.
ANAL. LINES USED ARE Ca 4220.7, Mg 2802.7, Mn 4030.7, Na 5332.3, Pb
2633.1, Fe 3719.9, Ni 1414.6, Cu 3453.5, Cr 3605.3, R 4044.1, Al 3044.0,
Cu 3274.0, Si 2516.1 ANGSTROM. THE SENSITIVITY OF THE DEETS. RANGES
FROM 1 TIMES 10 PRIME NEGATIVE7 MINUS 1 TIMES 10 PRIME NEGATIVE8 PERCENT
WITH THE EXCEPTION OF Si, WHERE THE DETERMINABLE CONC. IS 1 TIMES 10
PRIME NEGATIVE3PERCENT. THE REPRODUCIBILITY IS 20.0 PERCENT.
FACILITY: ALL-UNION SCI.-RES. INST. CHEM. REAGENTS SPEC. PURE CHEM.,
MOSCOW, USSR.

UNCLASSIFIED

L/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GEOCHEMISTRY OF DISPERSED ORGANIC SUBSTANCES IN PRECAMBRIAN
FORMATIONS OF SVALBARD -U-
AUTHOR-(04)-DANYUSHEVSKAYA, A.I., VOYTSEKHOVSKAYA, M.G., KLOTOVA, L.F.,
KRASILISHCHIKOV, A.A.
COUNTRY OF INFO--USSR

SOURCE--GEOL. NEFTI GAZA 1970, 14(3), 47-53

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOCHEMISTRY, ARTIC GEOLOGY, GREEN ALGAE, MOLECULAR STRUCTURE,
CARBONYL COMPOUND, GEOLOGIC FORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0146

STEP NO--UR/0009/70/014/003/0047/0050

CIRC ACCESSION NO--APO135643

UNCLASSIFIED

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530010-7

QU(NONE TYPE) AND SMALL QUANTITIES OF CH SUB2 AND ME SIDE GROUPS. THE
STRUCTURE IS SIMILAR TO THOSE OF THE DO\$ IN PRECUMBERAN FORMATIONS OF
NORTH AMERICA AND GREENLAND.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530010-7"

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201530010-7

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0135643
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT: THE HOL. STRUCTURE OF DISPERSED
ORG. SUBSTANCES FOUND IN CARBONATE LIMESTONE

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CIA-RDP86-00513R002201530010-7"

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"A Ballistic Wind Tunnel for Measuring the Drag of Models in Free Flight at Hypersonic Velocities"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1970, 1, No 2, pp 111-114 (from Rass-Mekhanika, No 9, Sep 70, Abstract No 9B497)

Translation: The authors describe a ballistic wind tunnel and some of the experimental data obtained in this tunnel. The installation comprises three main elements: the wind tunnel ($M=2.5-3.5$, total braking pressure up to 200 atmospheres), a pointer stand (caliber 14.5 mm, flight speed of the models up to 500-2,000 m/s) and electron-optical instrumentation. The operation of the installation is based on shooting the model into the teeth of the supersonic flow in the tunnel. The unit permits achievement of Mach numbers of 1.5-15, Reynolds numbers of 10^6-10^7 , and a stagnation temperature of up to 2,800°K. Data are given on the hind drag coefficient of a conical model with generatrix discontinuity, and elliptical cones, as well as a relationship for development of the width of the turbulent kernel in the wake of a sphere (in the caliber range of $\delta = 30-3,500$, development of the relative width of the turbulent wake δ is approximated by the expression $\delta = 0.0034\delta^{0.5}$). B. I. Bakum.

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